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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,413	10/16/2002	William O. Camp JR.	U02-0003.16	6740

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EXAMINER	
DANIEL JR, WILLIE J	
ART UNIT	PAPER NUMBER
2617	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/065,413	CAMP, WILLIAM O.	
	Examiner	Art Unit	
	Willie J. Daniel, Jr.	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to applicant's amendment filed on 13 December 2006. **Claims 1-15** are now pending in the present application. This office action is made **Final**.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 4-7, 10-11, and **13-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Spilker et al.** (hereinafter Spilker) (**US 6,717,547 B2**) in view of **Rabinowitz et al.** (hereinafter Rabinowitz) (**US 6,522,297 B1**).

Regarding **claim 1**, Spilker discloses an user terminal (102) which reads on the claimed "mobile terminal" (see col. 8, lines 22-39; Figs. 1 and 6) comprising:

a radio subsystem operable to receive a radio signal (see col. 10, lines 12-13; Figs. 1, 2 "ref. 206", and 6), where the user terminal (102) receives mobile telephone signals from base station (104) in which there must be a radio subsystem (e.g., GSM receiver) in the user terminal (102);

a ranging signal receiving subsystem for receiving digital television (DTV) signals for use as terrestrial ranging signals (see col. 8, lines 41 - col. 9, line 7; col. 11, lines 35-50; col. 11, line 64 - col. 12, line 6; Figs. 1, 2 "ref. 210", 6, and 8), where the user terminal (102)

receives the DTV signals from DTV transmitter (106) in which there must be a ranging system (e.g., DTV receiver) in the user terminal (102),

a DTV signal comprising synchronization bursts (e.g., pulse) which are equally spaced in time (see col. 7, lines 28-48), where the TV signals have a synchronization pulse in which the equally spaced in time would be inherent because of the synchronization pulse as evidenced by the fact that one of ordinary skill in the art clearly recognized;

a IF filter (812A-B) which reads on the claimed "filter" operatively connected to and shared in common with both the radio subsystem and the ranging signal receiving subsystem (see col. 14, lines 34-45; col. 11, lines 35-50; col. 11, line 64 - col. 12, line 6; col. 8, lines 41 - col. 9, line 7; Figs. 1, 2, 6, and 8), where the user terminal (102) receives radio and DTV signals via the radio subsystem (e.g., GSM receiver) and ranging subsystem (e.g., DTV receiver) in which the filter connected to both subsystems would be inherent to determine the terminal position by referencing the timing of the radio and DTV signals as evidenced by the fact that one of ordinary skill in the art would clearly recognize. As a note, Spilker further teaches of receiving the DTV signal (see col. 8, lines 41-col. 9, lines 1-7; Figs. 1 and 2 "ref. 210", and 6) in which the signal must be down-converted to meet the bandpass of the filter (812A-B) (see col. 14, lines 34-45; Fig. 8). Also, Spilker further teaches of a correlation between timing of TV signals and base stations (see col. 8, lines 55-58). Spilker does not specifically disclose having the features the filter having a bandpass that is smaller than a bandwidth of the DTV signal; a correlation subsystem operatively connected to the filter, the correlation subsystem operable to enable recovery of the synchronization bursts without demodulating the DTV signal by correlating the DTV signal with a known sequence that has

been predistorted to account for the bandpass of the filter. However, the examiner maintains that the features the filter having a bandpass that is smaller than a bandwidth of the DTV signal; a correlation subsystem operatively connected to the filter, the correlation subsystem operable to enable recovery of the synchronization bursts without demodulating the DTV signal by correlating the DTV signal with a known sequence that has been predistorted to account for the bandpass of the filter was well known in the art, as taught by Rabinowitz.

In the same field of endeavor, Rabinowitz discloses the features

the bandpass filter (1507) which reads on the claimed "filter" having a bandpass that is smaller than a bandwidth of the DTV signal (402) (see col. 11, lines 10-24; col. 14, lines 13-34; Figs. 4, 13, 15), where the user terminal (102) receives TV signals that are down converted to a narrower bandpass for the bandpass filter;

a correlator integrator (1516) which reads on the claimed "correlation subsystem" operatively connected to the bandpass filter (1507) which reads on the claimed "filter", the correlation subsystem (1516) operable to enable recovery of the synchronization bursts without demodulating (i.e., extracting) the DTV signal by correlating the DTV signal (402) with a known sequence that has been predistorted to account for the bandpass of the filter (1507) (see col. 6, lines 43-52; col. 11, lines 10-24,49-53; col. 11, line 58 - col. 12, line 9; col. 12, line 60 - col. 13, line 3; col. 14, lines 13-34; Figs. 4, 13, 15), where the user terminal (102) receives TV signals that are down converted to a narrower bandpass for the bandpass filter in which a correlator correlates the GCR signal burst of the TV signal that is used for locating the user terminal (102) (see col. 6, lines 43-52; Figs. 1-3). The timing information is extracted from the signal for correlating (see col. 13, lines 35-43).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Spilker and Rabinowitz to have the feature the filter having a bandpass that is smaller than a bandwidth of the DTV signal; a correlation subsystem operatively connected to the filter, the correlation subsystem operable to enable recovery of the synchronization bursts without demodulating the DTV signal by correlating the DTV signal with a known sequence that has been predistorted to account for the bandpass of the filter, in order to provide have signal processing techniques for position location using signals present in a broadcast television signal, as taught by Rabinowitz (see col. 2, lines 24-27).

Regarding **claim 2**, Spilker discloses every limitation claimed as applied above in claim 1. Spilker does not specifically disclose the feature wherein the correlation subsystem correlates the DTV signal at least in part by searching a correlation window that is determined at least in part by an approximate location of the mobile terminal within a network. However, the examiner maintains that the feature wherein the correlation subsystem correlates the DTV signal at least in part by searching a correlation window that is determined at least in part by an approximate location of the mobile terminal within a network was well known in the art, as taught by Rabinowitz.

Rabinowitz further discloses the feature wherein the correlation subsystem (1516) correlates the DTV signal (402) at least in part by searching a correlation window that is determined at least in part by an approximate location of the user terminal (102) which reads on the claimed "mobile terminal" within a network (see col. 11, lines 51-53; col. 13, lines 33-64; col. 6, lines 1-42; Figs. 1-4, 14).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Spilker and Rabinowitz to have the feature wherein the correlation subsystem correlates the DTV signal at least in part by searching a correlation window that is determined at least in part by an approximate location of the mobile terminal within a network, in order to provide have signal processing techniques for position location using signals present in a broadcast television signal, as taught by Rabinowitz (see col. 2, lines 24-27).

Regarding **claim 4**, the combination of Spilker and Rabinowitz discloses every limitation claimed, as applied above (see claim 1), in addition Spilker further discloses of the mobile terminal (102) of claim 1 further comprising a shared mixer (808A-B) operatively connected to the radio subsystem and the ranging signal receiving subsystem (see col. 14, lines 34-45; col. 10, lines 12-13; col. 8, lines 41 - col. 9, lines 1-7; Figs. 1, 2 "ref. 206 and 210", and 6).

Regarding **claim 5**, Spilker discloses every limitation claimed as applied above in claim 4. Spilker does not specifically disclose having the feature a shared amplifier operatively connected to the radio subsystem and the ranging signal receiving subsystem. However, the examiner maintains that the feature a shared amplifier operatively connected to the radio subsystem and the ranging signal receiving subsystem was well known in the art, as taught by Rabinowitz.

Rabinowitz further discloses the feature a radio frequency amp/filter (406) which reads on the claimed "shared amplifier" operatively connected to the radio subsystem and the ranging signal receiving subsystem (see col. 11, lines 10-12; Figs. 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Spilker and Rabinowitz to have the feature a shared amplifier operatively connected to the radio subsystem and the ranging signal receiving subsystem, in order to provide have signal processing techniques for position location using signals present in a broadcast television signal, as taught by Rabinowitz (see col. 2, lines 24-27).

Regarding **claim 6**, the combination of Spilker and Rabinowitz discloses every limitation claimed, as applied above (see claim 2), in addition Spilker further discloses of the mobile terminal (102) of claim 2 further comprising a shared mixer (808A-B) operatively connected to the radio subsystem and the ranging signal receiving subsystem (see col. 14, lines 34-45; col. 10, lines 12-13; col. 8, lines 41 - col. 9, lines 1-7; Figs. 1, 2 "ref. 206 and 210", and 6).

Regarding **claim 7**, Spilker discloses every limitation claimed as applied above in claim 6. Spilker does not specifically disclose having the feature a shared amplifier operatively connected to the radio subsystem and the ranging signal receiving subsystem. However, the examiner maintains that the feature a shared amplifier operatively connected to the radio subsystem and the ranging signal receiving subsystem was well known in the art, as taught by Rabinowitz.

Rabinowitz further discloses the feature a radio frequency amp/filter (406) which reads on the claimed "shared amplifier" operatively connected to the radio subsystem and the ranging signal receiving subsystem (see col. 11, lines 10-12; Figs. 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Spilker and Rabinowitz to have the feature a shared amplifier operatively connected to the radio subsystem and the ranging signal receiving subsystem; in order to provide have signal processing techniques for position location using signals present in a broadcast television signal, as taught by Rabinowitz (see col. 2, lines 24-27).

Regarding **claim 10**, Spilker discloses a method of processing a digital television (DTV) signal for use as a terrestrial ranging signal in an user terminal (102) which reads on the claimed "mobile terminal" implementing a terrestrial ranging signal receiver (see col. 8, lines 22-39; Figs. 1 and 6), the method comprising:

receiving the DTV signal (see col. 8, lines 41-col. 9, lines 1-7; Figs. 1, 2 "ref. 210", and 6),

the DTV signal comprising synchronization bursts (e.g., pulse) which are equally spaced in time (see col. 7, lines 28-48), where the TV signals have a synchronization pulse in which the equally spaced in time would be inherent because of the synchronization pulse as evidenced by the fact that one of ordinary skill in the art clearly recognized;

passing the DTV signal through an IF filter (812A-B) which reads on the claimed "filter" shared in common with both the ranging signal receiver and a radio subsystem of the mobile terminal (102) (see col. 14, lines 34-45; col. 11, lines 35-50; col. 11, line 64 - col. 12, line 6; col. 8, lines 41 - col. 9, line 7; Figs. 1, 2, 6, and 8), where the user terminal (102) receives radio and DTV signals via the radio subsystem (e.g., GSM receiver) and ranging subsystem (e.g., DTV receiver) in which the filter connected to both subsystems would be inherent to

determine the terminal position by referencing the timing of the radio and DTV signals as evidenced by the fact that one of ordinary skill in the art would clearly recognize. As a note, Spilker further teaches of receiving the DTV signal (see col. 8, lines 41-col. 9, lines 1-7; Figs. 1 and 2 "ref. 210", and 6) in which the signal must be down-converted to meet the bandpass of the filter (812A-B) (see col. 14, lines 34-45; Fig. 8). Also, Spilker further teaches of a correlation between timing of TV signals and base stations (see col. 8, lines 55-58). Spilker does not specifically disclose having the features the filter having a bandpass that is smaller than a bandwidth of the DTV signal, but substantially equal to or greater than the bandwidth of a native radio signal; recovering the synchronization bursts without demodulating the DTV signal by correlating the DTV signal with a known sequence that has been predistorted to account for the bandpass of the filter. However, the examiner maintains that the features the filter having a bandpass that is smaller than a bandwidth of the DTV signal, but substantially equal to or greater than the bandwidth of a native radio signal; recovering the synchronization bursts without demodulating the DTV signal by correlating the DTV signal with a known sequence that has been predistorted to account for the bandpass of the filter was well known in the art, as taught by Rabinowitz.

Rabinowitz further discloses the features

the bandpass filter (1507) which reads on the claimed "filter" having a bandpass that is smaller than a bandwidth of the DTV signal (402), but substantially equal to or greater than the bandwidth of a native radio signal (see col. 11, lines 10-24; col. 14, lines 13-34; Figs. 4, 13, 15), where the user terminal (102) receives TV signals that are down converted to a narrower bandpass for the bandpass filter;

recovering the synchronization bursts without demodulating (i.e., extracting) the DTV signal by correlating the DTV signal (402) with a known sequence that has been predistorted to account for the bandpass of the filter (1507) (see col. 6, lines 43-52; col. 11, lines 10-24,49-53; col. 11, line 58 - col. 12, line 9; col. 12, line 60 - col. 13, line 3; col. 14, lines 13-34; Figs. 4, 13, 15), where the user terminal (102) receives TV signals that are down converted to a narrower bandpass for the bandpass filter in which a correlator correlates the GCR signal burst of the TV signal that is used for locating the user terminal (102) (see col. 6, lines 43-52; Figs. 1-3). The timing information is extracted from the signal for correlating (see col. 13, lines 35-43).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Spilker and Rabinowitz to have the features the filter having a bandpass that is smaller than a bandwidth of the DTV signal, but substantially equal to or greater than the bandwidth of a native radio signal; recovering the synchronization bursts without demodulating the DTV signal by correlating the DTV signal with a known sequence that has been predistorted to account for the bandpass of the filter, in order to provide have signal processing techniques for position location using signals present in a broadcast television signal, as taught by Rabinowitz (see col. 2, lines 24-27).

Regarding **claim 11**, Spilker discloses every limitation claimed as applied above in claim 10. Spilker does not specifically disclose the feature wherein the recovering of the synchronization bursts is accomplished at least in part by searching a correlation window that is determined at least in part by an approximate location of the mobile terminal within a network. However, the examiner maintains that the feature wherein the recovering of the

synchronization bursts is accomplished at least in part by searching a correlation window that is determined at least in part by an approximate location of the mobile terminal within a network was well known in the art, as taught by Rabinowitz.

Rabinowitz further discloses the feature wherein the recovering of the synchronization bursts is accomplished at least in part by searching a correlation window that is determined at least in part by an approximate location of the user terminal (102) which reads on the claimed "mobile terminal" within a network (see col. 11, lines 51-53; col. 13, lines 33-64; col. 6, lines 1-42; Figs. 1-4, 14).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Spilker and Rabinowitz to have the feature wherein the recovering of the synchronization bursts is accomplished at least in part by searching a correlation window that is determined at least in part by an approximate location of the mobile terminal within a network, in order to provide have signal processing techniques for position location using signals present in a broadcast television signal, as taught by Rabinowitz (see col. 2, lines 24-27).

Regarding **claim 13**, Spilker discloses an apparatus providing user terminal (102) which reads on the claimed "mobile terminal" and terrestrial ranging signal function (see col. 8, lines 22-39; Figs. 1 and 6), the apparatus comprising:

means for receiving a digital television (DTV) signal for use as a terrestrial ranging signal (see col. 8, lines 41-col. 9, lines 1-7; Figs. 1, 2 "ref. 210", and 6),

the DTV signal comprising synchronization bursts (e.g., pulse) which are equally spaced in time (see col. 7, lines 28-48), where the TV signals have a synchronization pulse in which

the equally spaced in time would be inherent because of the synchronization pulse as evidenced by the fact that one of ordinary skill in the art clearly recognized;

means for passing the DTV signal through an IF filter (812A-B) which reads on the claimed "filter" (see col. 14, lines 34-45; col. 11, lines 35-50; col. 11, line 64 - col. 12, line 6; col. 8, lines 41 - col. 9, line 7; Figs. 1, 2, 6, and 8), where the user terminal (102) receives radio and DTV signals via the radio subsystem (e.g., GSM receiver) and ranging subsystem (e.g., DTV receiver) in which the filter connected to both subsystems would be inherent to determine the terminal position by referencing the timing of the radio and DTV signals as evidenced by the fact that one of ordinary skill in the art would clearly recognize. As a note, Spilker further teaches of receiving the DTV signal (see col. 8, lines 41-col. 9, lines 1-7; Figs. 1 and 2 "ref. 210", and 6) in which the signal must be down-converted to meet the bandpass of the filter (812A-B) (see col. 14, lines 34-45; Fig. 8). Also, Spilker further teaches of a correlation between timing of TV signals and base stations (see col. 8, lines 55-58). Spilker does not specifically disclose having the features the filter having a bandpass that is smaller than a bandwidth of the DTV signal, but substantially equal to or greater than the bandwidth of a native radio signal; means for recovering the synchronization bursts without demodulating the DTV signal by correlating the DTV signal with a known sequence that has been predistorted to account for the bandpass of the filter. However, the examiner maintains that the features the filter having a bandpass that is smaller than a bandwidth of the DTV signal, but substantially equal to or greater than the bandwidth of a native radio signal; means for recovering the synchronization bursts without demodulating the DTV signal by

correlating the DTV signal with a known sequence that has been predistorted to account for the bandpass of the filter was well known in the art, as taught by Rabinowitz.

Rabinowitz further discloses the features

the bandpass filter (1507) which reads on the claimed "filter" having a bandpass that is smaller than a bandwidth of the DTV signal (402), but substantially equal to or greater than the bandwidth of a native radio signal (see col. 11, lines 10-24; col. 14, lines 13-34; Figs. 4, 13, 15), where the user terminal (102) receives TV signals that are down converted to a narrower bandpass for the bandpass filter;

means for recovering the synchronization bursts without demodulating (i.e., extracting) the DTV signal by correlating the DTV signal (402) with a known sequence that has been predistorted to account for the bandpass of the filter (1507) (see col. 6, lines 43-52; col. 11, lines 10-24,49-53; col. 11, line 58 - col. 12, line 9; col. 12, line 60 - col. 13, line 3; col. 14, lines 13-34; Figs. 4, 13, 15), where the user terminal (102) receives TV signals that are down converted to a narrower bandpass for the bandpass filter in which a correlator correlates the GCR signal burst of the TV signal that is used for locating the user terminal (102) (see col. 6, lines 43-52; Figs. 1-3). The timing information is extracted from the signal for correlating (see col. 13, lines 35-43).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Spilker and Rabinowitz to have the features the filter having a bandpass that is smaller than a bandwidth of the DTV signal, but substantially equal to or greater than the bandwidth of a native radio signal; means for recovering the synchronization bursts without demodulating the DTV signal by correlating

the DTV signal with a known sequence that has been predistorted to account for the bandpass of the filter, in order to provide have signal processing techniques for position location using signals present in a broadcast television signal, as taught by Rabinowitz (see col. 2, lines 24-27).

Regarding **claim 14**, Spilker discloses every limitation claimed as applied above in claim 13. Spilker does not specifically disclose the feature wherein the means for recovering further comprises means for searching a correlation window that is determined by an approximate location of the mobile terminal within a network. However, the examiner maintains that the feature wherein the means for recovering further comprises means for searching a correlation window that is determined by an approximate location of the mobile terminal within a network was well known in the art, as taught by Rabinowitz.

Rabinowitz further discloses the feature wherein the means for recovering further comprises means for searching a correlation window that is determined by an approximate location of the mobile terminal (102) within a network (see col. 11, lines 51-53; col. 13, lines 33 - col. 14, line 11; col. 6, lines 1-42; Figs. 1-4, 14).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Spilker and Rabinowitz to have the feature wherein the means for recovering further comprises means for searching a correlation window that is determined by an approximate location of the mobile terminal within a network, in order to provide have signal processing techniques for position location using signals present in a broadcast television signal, as taught by Rabinowitz (see col. 2, lines 24-27).

Claims 3, 8-9, 12, and **15** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Spilker et al.** (hereinafter Spilker) (**US 6,717,547 B2**) in view of **Rabinowitz et al.** (hereinafter Rabinowitz ('297)) (**US 6,522,297 B1**) as applied to claim 1, 10, and 13 above, and further in view of **Rabinowitz et al.** (hereinafter Rabinowitz ('294)) (**US 20020144294 A1**).

Regarding **claim 3**, Spilker discloses every limitation claimed as applied above in claim 1. Spilker does not specifically disclose having the feature wherein the correlation subsystem correlates the DTV signal at least in part by performing multiple correlations at times separated by one over a know rate of occurrence of the synchronization bursts. However, the examiner maintains that the feature wherein the correlation subsystem correlates the DTV signal at least in part by performing multiple correlations was well known in the art, as taught by Rabinowitz ('297).

In the same field of endeavor, Rabinowitz ('297) discloses the feature wherein the correlation subsystem (1516) correlates the DTV signal (402) at least in part by performing multiple correlations (see col. 11, lines 51-53; col. 11, line 59 - col. 12, line 9; col. 14, lines 13-35; Figs. 4, 15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Spilker and Rabinowitz to have the feature wherein the correlation subsystem correlates the DTV signal at least in part by performing multiple correlations, in order to provide have signal processing techniques for position location using signals present in a broadcast television signal, as taught by Rabinowitz (see col. 2, lines 24-27). The combination of Spilker and Rabinowitz ('297) does

not specifically disclose the feature correlations at times separated by one over a known rate of occurrence of the synchronization bursts. However, the examiner maintains that the feature correlations at times separated by one over a known rate of occurrence of the synchronization bursts was well known in the art, as taught by Rabinowitz ('294).

In the same field of endeavor, Rabinowitz ('294) further discloses the feature correlations at times separated by one over a known rate of occurrence of the synchronization bursts (see pg. 5, [0074-0076]; Fig. 4), where the correlator uses the time samples of the segments for autocorrelation of the signal in which the segments of the signal relate to the synchronization bursts.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Spilker, Rabinowitz ('297), and Rabinowitz ('294) to have the feature correlations at times separated by one over a known rate of occurrence of the synchronization bursts, in order to determine a position of the user terminal, as taught by Rabinowitz ('294) (see abstract, [0009]).

Regarding **claim 8**, the combination of Spilker, Rabinowitz ('297), and Rabinowitz ('294) discloses every limitation claimed, as applied above (see claim 3), in addition Spilker further discloses the mobile terminal (102) of claim 3 further comprising a shared mixer (808A-B) operatively connected to the radio subsystem and the ranging signal receiving subsystem (see col. 14, lines 34-45; col. 10, lines 12-13; col. 8, lines 41 - col. 9, lines 1-7; Figs. 1, 2 "ref. 206 and 210", and 6).

Regarding **claim 9**, Spilker discloses every limitation claimed as applied above in claim 8. Spilker does not specifically disclose having the feature a shared amplifier

operatively connected to the radio subsystem and the ranging signal receiving subsystem. However, the examiner maintains that the feature a shared amplifier operatively connected to the radio subsystem and the ranging signal receiving subsystem was well known in the art, as taught by Rabinowitz ('297).

Rabinowitz ('297) further discloses the feature a radio frequency amp/filter (406) which reads on the claimed "shared amplifier" operatively connected to the radio subsystem and the ranging signal receiving subsystem (see col. 11, lines 10-12; Figs. 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Spilker, Rabinowitz ('294), and Rabinowitz ('297) to have the feature a shared amplifier operatively connected to the radio subsystem and the ranging signal receiving subsystem, in order to provide have signal processing techniques for position location using signals present in a broadcast television signal, as taught by Rabinowitz ('297) (see col. 2, lines 24-27).

Regarding **claim 12**, Spilker discloses every limitation claimed as applied above in claim 10. Spilker does not specifically disclose having the feature wherein the recovering of the synchronization bursts is accomplished at least in part by performing multiple correlations at times separated by one over a know rate of occurrence of the synchronization bursts. However, the examiner maintains that the feature wherein the recovering of the synchronization bursts is accomplished at least in part by performing multiple correlations was well known in the art, as taught by Rabinowitz ('297).

Rabinowitz ('297) further discloses the feature wherein the recovering of the synchronization bursts is accomplished at least in part by performing multiple correlations (see col. 11, lines 51-53; col. 11, line 59 - col. 12, line 9; col. 14, lines 13-35; Figs. 4, 15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Spilker and Rabinowitz ('297) to have the feature wherein the recovering of the synchronization bursts is accomplished at least in part by performing multiple correlations, in order to provide have signal processing techniques for position location using signals present in a broadcast television signal, as taught by Rabinowitz (see col. 2, lines 24-27). The combination of Spilker and Rabinowitz ('297) does not specifically disclose the feature correlations at times separated by one over a known rate of occurrence of the synchronization bursts. However, the examiner maintains that the feature correlations at times separated by one over a known rate of occurrence of the synchronization bursts was well known in the art, as taught by Rabinowitz ('294).

Rabinowitz ('294) further discloses the feature correlations at times separated by one over a known rate of occurrence of the synchronization bursts (see pg. 5, [0074-0076]; Fig. 4), where the correlator uses the time samples of the segments for autocorrelation of the signal in which the segments of the signal relate to the synchronization bursts.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Spilker, Rabinowitz ('297), and Rabinowitz ('294) to have the feature correlations at times separated by one over a known rate of occurrence of the synchronization bursts, in order to determine a position of the user terminal, as taught by Rabinowitz ('294) (see abstract, [0009]).

Regarding **claim 15**, Spilker discloses every limitation claimed as applied above in claim 13. Spilker does not specifically disclose having the feature wherein the means for recovering further comprises means for performing multiple correlations at times separated by one over a known rate of occurrence of the synchronization bursts. However, the examiner maintains that the feature wherein the means for recovering further comprises means for was well known in the art, as taught by Rabinowitz ('297).

Rabinowitz ('297) discloses the feature wherein the means for recovering further comprises means for performing multiple
correlations (see - col. 11, lines 51-53; col. 11, line 59 - col. 12, line 9; col. 14, lines 13-35; Figs. 4, 15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Spilker and Rabinowitz ('297) to have the feature wherein the means for recovering further comprises means for performing multiple correlations, in order to provide have signal processing techniques for position location using signals present in a broadcast television signal, as taught by Rabinowitz (see col. 2, lines 24-27). The combination of Spilker and Rabinowitz ('297) fails to disclose the feature correlations at times separated by one over a known rate of occurrence of the synchronization bursts. However, the examiner maintains that the feature correlations at times separated by one over a known rate of occurrence of the synchronization bursts was well known in the art, as taught by Rabinowitz ('294).

Rabinowitz ('294) further discloses the feature correlations at times separated by one over a known rate of occurrence of the synchronization bursts (see pg. 5, [0074-0076]; Fig.

4), where the correlator uses the time samples of the segments for autocorrelation of the signal in which the segments of the signal relate to the synchronization bursts.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Spilker, Rabinowitz ('297), and Rabinowitz ('294) to have the feature correlations at times separated by one over a known rate of occurrence of the synchronization bursts, in order to autocorrelate the TV signal of DTV towers for determining the location of a handset, as taught by Rabinowitz ('294).

Response to Arguments

3. Applicant's arguments filed 13 December 2006 have been fully considered but they are not persuasive.

The Examiner respectfully disagrees with applicant's arguments as the applied reference(s) provide more than adequate support and to further clarify (see the above claims and comments in this section).

4. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding applicant's argument of claims 1, 10, and 13 in paragraph bridging pgs. 2-3, "...does not discuss or show any common components...common, shared filter...", the Examiner respectfully disagrees. Applicant's description on pg. 11, [0026, line 31] describes that the filter might actually be an **IF filter**. Furthermore, Spilker discloses a IF filter (812A-B) which reads on the claimed "filter" operatively connected to and shared in common with both the radio subsystem and the ranging signal receiving subsystem (see col. 14, lines 34-45; col. 11, lines 35-50; col. 11, line 64 - col. 12, line 6; col. 8, lines 41 - col. 9, line 7; Figs. 1, 2, 6, and 8), where the user terminal (102) receives radio and DTV signals via the radio subsystem (e.g., GSM receiver) and ranging subsystem (e.g., DTV receiver) in which the filter connected to both subsystems would be inherent to determine the terminal position by referencing the timing of the radio and DTV signals as evidenced by the fact that one of ordinary skill in the art would clearly recognize. As a note, Spilker further teaches of

receiving the DTV signal (see col. 8, lines 41-col. 9, lines 1-7; Figs. 1 and 2 "ref. 210", and 6) in which the signal must be down-converted to meet the bandpass of the filter (812A-B) (see col. 14, lines 34-45; Fig. 8). Also, Spilker further teaches of a correlation between timing of TV signals and base stations (see col. 8, lines 55-58).

Spilker (see Figs. 1 and 6) clearly shows the terminal (102) receiving signals from DTV (106A-N) and base station (104) in which the signals pass through switch (see Fig. 8 "ref. 806"). Similarly, the instant application (see Figs. 5-7) the mobile terminal (500) has only one antenna (502) that apparently passes signals through switch (504) to UHF band filter (506) and UMTS band filter (508).

5. Regarding applicant's arguments of claims 2-9, 11-13, 14-15, the claims are addressed for the same reasons as set forth above and as applied in each claim rejection.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Willie J. Daniel, Jr. whose telephone number is (571) 272-7907. The examiner can normally be reached on 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WJD,JR/

WJD,JR
26 February 2007

CHARLES APPIAH
PRIMARY EXAMINER